Listing of Claims:

1. (Currently Amended) A device for generating a three-dimensional model of a spatial structure ~~(G)~~ comprising:

~~a)~~ an imaging unit for generating two-dimensional projection images ~~(A, B, C)~~ of the structure ~~(G)~~ from various directions;

~~b)~~ a display unit that is coupled to the imaging unit for displaying one of the projection images ~~(A)~~ as a reference image, in which connection the display unit comprises input means in order to make possible the interactive specification of at least one image point of the structure ~~(G)~~ as a reference point ~~(C_A)~~;

~~c)~~ a data processing device that is coupled to the imaging unit and the display unit and is designed to reconstruct ~~the~~a space point ~~(C_D)~~corresponding to~~, belonging to a~~ the reference point ~~(C_A),~~ of ~~a~~the structure ~~(G)~~ from further projection images ~~(B, C)~~ produced from other directions using the image-processing unit, wherein the space point is reconstructed by evaluating other image points of the further projection images that lie on a respective epipolar line of the reference point, and wherein gray scale values corresponding to the other image points are projected on a projection line of the reference point and added to form a sum profile.

2. (Currently Amended) A device as claimed in claim 1, ~~characterized in that~~wherein the imaging unit is a rotation X-ray unit.

3. (Currently Amended) A device as claimed in claim 1, ~~characterized in that~~wherein the data-processing device is designed to reconstruct said space point ~~(C.sub.3D) by evaluating those image points of the further projection images (B, C) that lie on the respective epipolar line (E.sub.B, E.sub.C) of the associated reference point (C.sub.A)~~ utilizing further projection images that are obtained during different cardiac phases.

4. (Currently Amended) A device as claimed in claim 3, whereincharacterized in that the gray scale values image-point values of said image points are projected on the projection line (L) of the reference point (C.sub.A) andare added there punctiformly to form athe sum profile (S).

5. (Currently Amended) A device as claimed in claim 14, whereincharacterized in that the sum profile (S) is only evaluated in a segment in which gray scaleimage-point values of all the further projection images (B, C) have contributed to the sum profile (S).

6. (Currently Amended) A device according to claim 14, whereincharacterized in that said space point (C.sub.3D) is defined as that position on the projection line (L) of the reference point (C.sub.A) at which the sum profile (S) assumes an extreme.

7. (Currently Amended) A device as claimed in claim 1, whereincharacterized in that the spatial structure (G) has a linear route and the data-processing device is designed to reconstruct said linear route from thea specification of a plurality of reference points (C.sub.A) situated on athe reference image (A).

8. (Currently Amended) A device as claimed in claim 17, whereincharacterized in that the data-processing device is designed to determine thea width of the spatial structure (G) from the a projection of thea reconstructed three-dimensional model on projection images of the spatial structure (G).

9. (Currently Amended) A device as claimed in claim 1, further comprising:

characterized in that it comprises means for determining a characteristic parameter for a cyclic spontaneous movement detector for determining spontaneous movement associated with of the spatial structure, (G) andwherein the data-processing device is designed to use only those further projection images for the reconstruction of athe space point (C.sub.3D) that originate from the same phase of the spontaneous

movement as the ~~associated~~ reference image ~~(A)~~.

10. (Currently Amended) A method for generating a three-dimensional model of a spatial structure ~~(G)~~ comprising the following steps:

~~a)~~ generating~~on of~~ two-dimensional projection images ~~(A, B, C)~~ of the structure ~~(G)~~ taken from different directions, the images comprising a reference image and further projection images;

~~b)~~ displaying ~~of one of the projection images as a~~the reference image;

obtaining a ~~(A) in order to make possible the interactive specification~~ selection of at least one image point on the reference image of the spatial structure as a reference point ~~(C.sub.A)~~;

~~c) automatic~~ determining ~~ation of the~~a space point ~~(C.sub.3D),~~ ~~belonging~~corresponding to the ~~specified image~~reference point ~~(C.sub.A),~~ of the spatial structure from the further projection images ~~(B, C) generated~~, wherein the space point is determined based on image intensity of other image points of the further projection images that lie on a respective epipolar line of the reference point.

11. (New) The method of claim 10, wherein gray scale values corresponding to the other image points are projected on a projection line of the reference point and added to form a sum profile for determining the space point.

12. (New) The method of claim 10, further comprising obtaining the two-dimensional projection images using a rotation X-ray unit.

13. (New) The method of claim 10, wherein the space point is reconstructed utilizing further projection images that are obtained during different cardiac phases.

14. (New) The method of claim 11, wherein the gray scale values are added punctiformly to form the sum profile.

15. (New) The method of claim 11, wherein the sum profile is only evaluated in a segment in which gray scale values of all the further projection images have contributed to the sum profile.

16. (New) The method of claim 11, wherein the space point is defined as that position on the projection line of the reference point at which the sum profile assumes an extreme.

17. (New) The method of claim 11, wherein the spatial structure has a linear route and is reconstructed from a specification of a plurality of reference points situated on the reference image.

18. (New) The method of claim 11, further comprising determining a width of the spatial structure from a projection of a reconstructed three-dimensional model on projection images of the spatial structure.

19. (New) The method of claim 11, further comprising:

determining spontaneous movement associated with the spatial structure using an electrocardiograph apparatus, and wherein only those further projection images are utilized for the reconstruction of the space point that originate from the same phase of the spontaneous movement as the reference image.

20. (New) A computer-readable storage medium comprising computer instructions for:

obtaining two-dimensional projection images of a spatial structure taken from different directions, the images comprising a reference image and further projection images;

displaying the reference image;

obtaining a selection of a reference point on the reference image;

determining epipolar lines for at least a portion of the further projection images, the epipolar lines being based on the reference point;

determining image intensity of image points of the further projection images that lie on the epipolar lines;

determining a space point corresponding to the reference point of the spatial structure from a summation of at least a portion of the image intensities; and

generating a three-dimensional model of the spatial structure using the space point.